

PATENT SPECIFICATION

DRAWINGS ATTACHED



859,948

Date of filing Complete Specification June 24, 1958.

Application Date March 26, 1957.

No. 9806/57.

Complete Specification Published Jan. 25, 1961.

Index at acceptance:—Class 49, D1(A:E1:E2:P).

International Classification:—A23I.

COMPLETE SPECIFICATION

Preparation, Storage and Supply of Pre-Cooked or Partially Cooked Meals

I, WILLIAM HENRY SMITH, a British subject, of The Grill, Regent Street, Cheltenham, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the preparation, storage and supply on a commercial basis of pre-cooked or partially cooked meals and has for its object to enable the preparation and supply in a frozen state of a pre-cooked or partially cooked meal in an attractive and appetising form suitable for heating, if necessary with completion of cooking, so as to be available for consumption without further preparation.

According to the invention this object is realised by cooking or partially cooking the various items of the meal, for example meat or fish, potatoes and vegetables, in their various separate utensils, filling portions of such cooked or partially cooked items into a dish of hygienic material capable of withstanding oven temperatures, a suitably prepared item of the meal being arranged in the dish to form at least one dividing wall or dyke separating the dish into sections into which the other items of the meal are placed, the meat or fish for example being placed in one of the sections and being separated from the vegetable or vegetables, which are placed in another section or sections, hermetically closing the top of the dish by a closure plate, and deep-freezing the filled dish, preferably by the quick-freeze process, in which state it may be stored and is in condition for supply.

Preferably the dividing wall or dyke is formed from a portion of creamed, duchesse or other suitably prepared potato. By this provision of a wall or dyke made of one of the items of the meal, the separate items in the dish are prevented from becoming mixed

together before freezing, and in particular a gravy or sauce from permeating the complete meal, as a result of which the meal is attractively presented in the dish. This is achieved moreover without having recourse to making the dishes, which will normally be of metal foil, with upstanding internal ribs which would otherwise be necessary to form separators or dividing walls, with the obstruction that such ribs would entail when eating the meal from the dish.

If desired, and possibly essentially in the case of some meals, after filling the portions of the cooked or partially cooked items, or certain of them, into the dish, the dish and its contents are heated (for example to a temperature of 450° to 500° F.) either immediately before or during the hermetic closure of the dish, in order to sterilise the contents and prevent possible contamination.

In carrying the invention into effect the various items of the complete meal, for example meat or fish, potatoes and vegetables, are cooked or partially cooked in their various separate utensils. The potatoes are then brought to duchesse form and piped into a shallow dish of pure aluminium foil to separate the dish into sections in which the meat or fish and other vegetables are respectively placed, any gravy or sauce being added to the meat or fish section. The top of the dish is then closed by a closure plate of the same aluminium foil in the case of meals which have to be re-heated in the enclosed state. For those meals which include items which still require further cooking, as distinct from mere re-heating, the closure plate may be of plastic material with a window of transparent foil to enable the contents of the dish to be seen there-through. Alternatively the open top of the dish may be completely wrapped in transparent plastic foil. In the case of a closure plate of aluminium foil, the plate is crimped

[Price 3s. 6d.]

Price 4s 6d

Price 3s 6d

over the free edge of the peripheral wall of the dish in order to hermetically seal the dish contents.

5 The filled dish is then deep-frozen, preferably by the quick-freeze process, in order to prevent crystallisation of the tissues, and therefore loss of the juices, colour and natural flavour of the various items of the meal. In this deep-frozen state the packaged meal can be kept for a period of from three to nine months and is always ready for supply during this period.

15 To make the meal ready for consumption it is merely necessary, for completely pre-cooked meals, to place the dish in the oven and heat it in its still sealed state to the required temperature. In the case of meals including one or more only partially cooked items (or even a completely uncooked item, as in the case of pastry) the dish is first completely defrosted, whereafter the top closure plate is removed and the meal heated in the oven with the dish open.

25 If desired the closure plate may carry a label bearing instructions as to the alternative forms of final heating and/or cooking applicable to the particular contents of the dish.

The following typical examples serve to illustrate the application of the invention:—

30 **EXAMPLE 1**
SAUTE OF KIDNEY IN RED WINE SAUCE WITH DUCHESSE POTATOES, CARROTS AND RUNNER BEANS

35 Onion is first sweated in butter and the kidney added and sautéed, whereafter red wine is added and reduced with brown sauce. This is placed in one section of the aluminium foil dish, which has been previously sectioned off with duchesse potatoes, the prepared carrots being placed in another section or sections. One section or a part of a section or sections is left unfilled. The dish is then placed in the oven at a temperature sufficient to sterilise the contents and then cooled rapidly. The runner beans are then placed in the remaining section or sections or the unfilled part of the section or sections, having been previously boiled and washed in iced water. The dish is then hermetically sealed with a pure aluminium closure plate and deep-frozen.

55 In its deep-frozen state the above meal may be kept in perfect condition for a period of three to nine months. For reheating the meal and rendering it ready for consumption it is merely necessary to place the hermetically sealed dish in a hot oven for ten minutes. Alternatively the sealed dish may be placed in a moderate oven for five minutes, followed by a further five minutes in a hot oven, whereafter the lid is removed and the open dish replaced in the oven for one or two minutes.

EXAMPLE 2

FILLET OF SOLE BONNE FEMME WITH TOMATO AND DUCHESSE POTATOES 65

The potatoes are first washed, peeled, boiled and machine puréed whereafter butter, cream and egg yolks are added. The duchesse potatoes thus prepared are then piped on to the aluminium foil dish to divide the latter into sections for the reception of the fish and its sauce and the tomato. 70

The sole is filleted and placed in a buttered dish to which shallots, chopped mushrooms and white wine are added. The contents of this dish are then covered and cooked in the oven in the ordinary way whereafter the dish is removed and a portion of the sole is placed in the aluminium foil dish in the section prepared for it by the duchesse potatoes. 75

A sauce is made with the fish liquor, cohered with butter, flour and egg yolk and the fish is napped with the sauce. Tomato is blanched, cooled, drained, peeled, halved, cored and scooped out and placed in the section provided for it in the aluminium foil dish. 80

The complete dish is hermetically sealed with a pure aluminium closure plate, being passed through a very hot oven (about 450° to 500° F.) as a precaution against possible contamination during packaging in the foil, and is then deep-frozen. 85

It will be appreciated that the aluminium foil will withstand temperatures up to about 700° F. 90

The accompanying drawings illustrate the application of the invention in accordance with the preceding Example 1. In the drawings:— 100

Figure 1 is a plan view of the pre-cooked or partially cooked meal in a frozen state in its dish, the closure plate of the latter having been removed, and 105

Figure 2 is a section on the line II—II of Figure 1 but showing the closure plate in position.

Reference numeral 3 indicates the dish of pure aluminium foil into which the duchesse potatoes 4 have been piped in the form of a wall or dyke 5 which divides the dish into sections A, B and C. As illustrated, the wall or dyke forms a closed figure and thus entirely surrounds the section A. The sauté of kidney 6, together with its wine sauce, is contained in the section A, the wall or dyke 5 preventing the sauce from permeating to the sections B and C. In these latter sections the carrots 7 are disposed, other parts of these sections containing the runner beans 8. The closure plate of pure aluminium foil is indicated at 9 and is crimped over the free edge 3b of the peripheral wall 3a of the dish as shown at 9a in order to form with the dish a hermetic closure for the dish contents. 110 115 120 125

It will be seen that the duchesse potatoes of the wall or dyke 5 touch the closure plate

9 in order to completely separate the contents of section A from the contents of sections B and C. Air pockets *d* are, however, left above the contents of the sections A, B and C so that when the pre-cooked, pre-packed, frozen meal is being heated for consumption steam from the water content of the meal enters the air pockets and acts to preserve the moist or fresh appearance of the food, preventing "drying-up" of the latter.

When the meal includes a pastry item this is kept to the top of the dish—in contact with the closure plate—so that it is heated, without becoming unpalatably soggy, by direct heat from the closure plate.

WHAT I CLAIM IS:—

1. A method of preparing and supplying a meal which comprises cooking or partially cooking the various items of the meal in their various separate utensils, filling portions of such cooked or partially cooked items into a dish of hygienic material capable of withstanding oven temperatures, a suitably prepared item of the meal being arranged in the dish to form at least one dividing wall or dyke separating the dish into sections, and the other items of the meal being placed in the sections so provided, hermetically closing the top of the dish by a closure plate and deep-freezing the filled dish.

2. A method according to Claim 1, wherein the dividing wall or dyke is formed from suitably prepared potato.

3. A method according to Claim 2, wherein the dividing wall or dyke is formed from potato in duchesse form.

4. A method according to any of Claims 1 to 3, which further comprises heating the dish and its contents, after filling the portions of the cooked or partly cooked items, or certain of them, into the dish and either immediately before or during the hermetic closure of the dish, to a temperature sufficient to sterilise the contents and prevent possible contamination.

5. As an article of manufacture, a packed, pre-cooked or partially cooked, deep-frozen meal comprising the various cooked or partially cooked items contained in a dish of hygienic material in which the meal may be heated and served and in which the meal is hermetically sealed and deep-frozen, a suitably prepared item of the meal being arranged in the dish to form at least one dividing wall or dyke separating the dish into sections and the other items of the meal being placed in the sections so provided.

6. A packed meal according to Claim 5, wherein the dividing wall or dyke is formed from suitably prepared potato.

7. A packed meal according to Claim 6, wherein the dividing wall or dyke is formed from potato in duchesse form.

8. A packed meal according to any of Claims 5 to 7, wherein said other items comprise meat or fish and vegetables, the meat or fish being separated from the vegetables by said wall or dyke.

9. A packed meal according to Claim 8, wherein the wall or dyke forms a closed figure and entirely surrounds the meat or fish which is placed within the wall or dyke and is separated from the further vegetable or vegetables outside the wall or dyke.

10. A packed meal according to any of Claims 5 to 9, wherein the dish is of substantially pure aluminium foil and has its top closed by a closure plate of the same material.

11. A method of preparing and supplying a meal substantially as herein described with reference to the examples.

12. A packed, pre-cooked or partially cooked, deep-frozen meal substantially as herein described with reference to the examples.

ARTHUR R. DAVIES,
Chartered Patent Agent,
Royal Chambers, Promenade, Cheltenham,
Agent for the Applicant.

PROVISIONAL SPECIFICATION

Preparation, Storage and Supply of Pre-Cooked or Partially Cooked Meals

I, WILLIAM HENRY SMITH, a British subject, of The Grill, Regent Street, Cheltenham, do hereby declare this invention to be described in the following statement:—

This invention relates to the preparation, storage and supply on a commercial basis of pre-cooked or partially cooked meals and has for its object to enable the preparation and supply in a frozen state of a pre-cooked or partially cooked complete meal in an attractive and appetising form suitable for heating, if necessary with completion of cooking, so as to be available for consumption without further preparation.

According to the invention this object is realised by cooking or partially cooking the various items of the complete meal, for example meat or fish, potatoes and vegetables, in their various separate utensils, filling portions of such cooked or partially cooked items into a dish of hygienic material capable of withstanding oven temperatures the top of which is hermetically closed by a closure plate, whereafter the filled dish is deep-frozen, preferably by the quick-freeze process, in which state it may be stored and is in condition for supply.

Preferably the complete meal comprises

a portion of creamed potato or other vegetable which is arranged in the dish to form dividing walls or dykes separating the dish into sections, the meat or fish (with or without its
5 gravy or sauce) being placed in one of the sections and being separated from the further vegetable or vegetables which are placed in another section or sections. Thereby the separate items of the dish are prevented from
10 becoming mixed together before freezing, and in particular a gravy or sauce from permeating the complete meal, as a result of which the meal is attractively presented in the dish. This is achieved moreover without
15 having recourse to making the dishes, which will normally be of metal foil, with upstanding internal ribs which would otherwise be necessary to form separators or dividing walls, with the obstruction that such ribs
20 would entail when eating the meal from the dish.

If desired, and possibly essentially in the case of some meals, after filling the portions of the cooked or partially cooked items, or
25 certain of them, into the dish, the dish and its contents are heated (for example to a temperature of 450° to 500° F.) either immediately before or during the hermetic closure of the dish, in order to sterilise the contents and prevent possible contamination.
30

In carrying the invention into effect the various items of the complete meal, for example meat or fish, potatoes and vegetables, are cooked or partially cooked in their various
35 separate utensils. The potatoes are then brought to duchesse form and piped into a shallow dish of pure aluminium foil to separate the dish into sections in which the meat or fish and other vegetables are respectively placed, any gravy or sauce being added
40 to the meat or fish section. The top of the dish is then closed by a closure plate of the same aluminium foil in the case of meals which have to be re-heated in the enclosed state. For those meals which include items
45 which still require further cooking, as distinct from mere re-heating, the closure plate may be of plastic material with a window of transparent foil to enable the contents of the dish to be seen therethrough. Alternatively the open
50 top of the dish may be completely wrapped in transparent plastic foil. In any case, the free edge of the peripheral wall of the dish is clamped over the closure plate in order to
55 hermetically seal the dish contents.

The filled dish is then deep-frozen, preferably by the quick-freeze process, in order to prevent crystallisation of the tissues, and therefore loss of the juices, colour and natural
60 flavour of the various items of the meal. In this deep-frozen state the packaged meal can be kept for a period of from three to nine months and is always ready for supply during this period.

65 To make the meal ready for consumption

it is merely necessary, for completely pre-cooked meals, to place the dish in the oven and heat it in its still sealed state to the required temperature. In the case of meals
70 including on or more only partially cooked items (or even a completely uncooked item, as in the case of pastry) the dish is first completely defrosted, whereafter the top closure plate is removed and the meal heated
75 in the oven with the dish open.

If desired the closure plate may carry a label bearing instructions as to the alternative forms of final heating and/or cooking applicable to the particular contents of the
80 dish.

The following typical examples serve to illustrate the application of the invention:—

EXAMPLE 1

SAUTE OF KIDNEY IN RED WINE SAUCE WITH
DUCHESS POTATOES, CARROTS AND
85 RUNNER BEANS

Onion is first sweated in butter and the kidney and sauté added together, whereafter red wine is added and reduced with brown
90 sauce. This is placed in one section of the aluminium foil dish, which has been previously sectioned off with duchesse potatoes, the prepared carrots being placed in another section. One section is left unfilled. The dish is then placed in the oven at a temperature
95 sufficient to sterilise the contents and then cooled rapidly. The runner beans are then placed in the remaining section, having been previously boiled and washed in iced water. The dish is then hermetically sealed and deep-
100 frozen.

It its deep-frozen state the above meal may be kept in perfect condition for a period of three to nine months. For reheating the meal and rendering it ready for consumption
105 it is merely necessary to place the hermetically sealed dish in a hot oven for ten minutes. Alternatively the sealed dish may be placed in a moderate oven for five minutes, followed by a further five minutes in a hot oven, where-
110 after the lid is removed and the open dish replaced in the oven for one or two minutes.

EXAMPLE 2

FILLET OF SOLE BONNE FEMME WITH TOMATO
AND DUCHESS POTATOES
115

The potatoes are first washed, peeled, boiled and machine puréed whereafter butter, cream and egg yolks are added. The duchesse potatoes thus prepared are then piped on to the
120 aluminium foil dish to divide the latter into sections for the reception of the fish and its sauce and the tomato.

The sole is filleted and placed in a buttered dish to which shallots, chopped mushrooms and white wine are added. The contents of
125 this dish are then covered and cooked in the oven in the ordinary way whereafter the dish is removed and a portion of the sole

is placed in the aluminium foil dish in the section prepared for it by the duchesse potatoes.

5 A sauce is made with the fish liquor, cohered with butter, flour and egg yolk and the fish is napped with this sauce. Tomato is blanched, cooled, drained, peeled, halved, cored and scooped out and placed in the section provided for it in the aluminium foil
10 dish.

The complete dish is hermetically sealed

with a pure aluminium closure plate, being passed through a very hot oven (about 450° to 500° F.) as a precaution against possible contamination during packaging in the foil. 15

It will be appreciated that the aluminium foil will withstand temperatures up to about 700° F.

ARTHUR R. DAVIES,
Chartered Patent Agent,
Royal Chambers, Promenade, Cheltenham,
Agent for the Applicant.

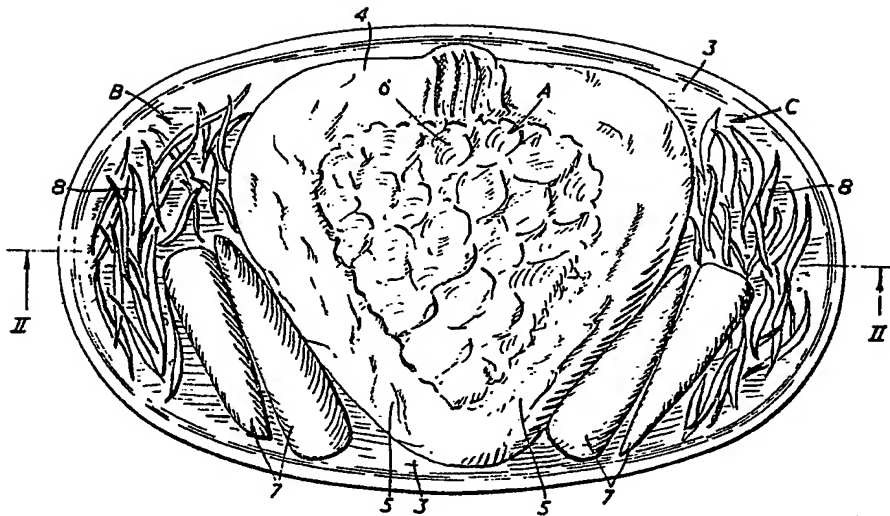


FIG. 1.

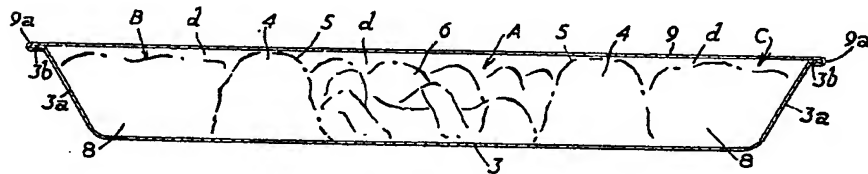


FIG. 2.